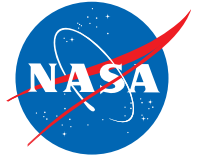


# NASA Education Framework

National Aeronautics and  
Space Administration



Johnson Space Center continues to lead and implement activities within the Agency's four key Lines of Business. JSC focuses our education investments to ensure they are NASA unique and non-duplicative of other Federal Agencies involved in STEM education. JSC Education personnel serve as agency experts and coordinators in providing intellectual leadership and focus on NASA Education's four key lines of business: NASA Internships, Fellowships, and Scholarships; STEM Engagement; Institutional Engagement; and Educator Professional Development.

## SE

**STEM Engagement (SE)** provides opportunities for participatory and experiential learning activities in formal and informal settings to connect learners to NASA-unique resources. The SE model facilitates the execution of public education events, experiential learning opportunities, and STEM challenges to engage the public in NASA's missions while placing appropriate emphasis on meeting national needs.

**NASA Internships, Fellowships, and Scholarships (NIFS)** launch a new era of learning, innovation and achievement. NASA inspires students to pursue STEM careers by providing these internships, fellowships and scholarships to leverage unique mission activities and increase the capabilities, diversity, and size of the nation's next generation workforce needed to enable future NASA discoveries.

## NIFS

## EPD

**Educator Professional Development (EPD)** offers professional development to K-12 and pre-service educators. EPD integrates NASA missions, education resources and NASA unique facilities to provide high quality STEM content and hands-on learning experiences. EPD includes Face-to-Face Institutes, Partner-Delivered Face-to-Face, Online EPD, and Community-Requested EPD. Educators return to their classrooms equipped with real-world experiences to teach and engage their students in STEM areas.

**Institutional Engagement**

**(IE)** enables formal and informal institutions to strengthen their capacity to perform STEM research and develop sustained STEM capabilities in topical areas of interest to NASA. IE focuses on competitive awards to sustain an institution's ability to deliver NASA content.

## IE



[www.nasa.gov](http://www.nasa.gov)



# Johnson Space Center

## Office of Education Activities

**Activities are sponsored by, or are in collaboration with, the Office of Education at NASA's Johnson Space Center (JSC):**

### STEM Engagement (SE)

**High School Aerospace Scholars:** High school juniors compete in an online session to earn a weeklong Science, Technology, Engineering and Math (STEM) filled experience at NASA's Johnson Space Center (JSC).

#### **International Space Station (ISS) Education Downlinks:**

Students speak live with astronauts and cosmonauts onboard the ISS.

**ISS One-Year Crew Education Initiative:** K-12 students will engage in NASA unique mission activities aligned with ISS one-year crew research, through a national design challenge, and other integrated activities.

#### **Micro-g Neutral Buoyancy Experiment Design Teams:**

Undergraduate students design and build prototypes of spacewalking tools to be used by astronauts for spacewalk training in the Neutral Buoyancy Laboratory.

**NASA Community College Aerospace Scholars:** Community college students nationwide compete during an online session to earn a three-day experience at a NASA field center.

**Virtual Technology Studios:** Provides interactive programming using video conferences and webcasts to inspire students to pursue STEM disciplines while learning more about Earth, NASA's missions and research.

### NASA Internships, Fellowships and Scholarships (NIFS)

**NASA Fellowships:** JSC hosts fellows sponsored by the Space Technology Mission Directorate (STMD) and the Minority University Research and Education Program (MUREP) to support Human Space flight research.

**NASA Internships:** The JSC Office of Education leads the implementation of internship activities across the agency. JSC provides numerous hands-on, mentor-led NASA specific experiences for high school, undergraduate and graduate students.

### Institutional Engagement (IE)

**Informal Institutions:** Partners with museums, science centers and informal education groups to promote STEM literacy and awareness.

**Steckler Project:** Research activities that address innovative, meaningful and enduring research and technology development, which could enable space colonization or space settlement.

**University Research-1:** Collaborative mission through NASA's International Space Station Program, five universities and the NanoRacks commercial platform to advance ground-based student cancer research to flight-based research aboard the ISS.

### Educator Professional Development (EPD)

**Educator Professional Development Institute:** Weeklong workshops that map to NASA's current missions and education resources to state and national standards for teaching STEM in middle school classrooms.

**Middle School Aerospace Scholars:** Offers weeklong professional development training for middle school educators.

**Pre-Service Teacher Institute:** Delivers pre-service teachers and faculty members opportunities to enhance their knowledge and skill in teaching mathematics and science by using technology.

**Space Exploration Educators Conference:** Hosted by Space Center Houston, the JSC Office of Education supports the conference by providing education specialists to conduct hands-on lessons, subject matter experts to present on NASA's ongoing missions, and coordination of an 'expose' highlighting NASA and Space Industry partners' education programs.

**For more information on NASA-JSC Education activities, please visit:**  
**<http://education.jsc.nasa.gov>**